



Docket 96-45

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**FAX COVER SHEET FOR:  
THE UNIVERSITY OF KANSAS  
SCHOOL OF NURSING  
ACADEMIC AFFAIRS  
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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

DATE: December 19, 1996

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FROM: Helen Connors, MS, PhD *HC*  
Associate Dean  
School of Nursing Academic Affairs

SENDER: Helen Beashore

REMARKS: FAXING: FCC information.

PAGES INCLUDING THIS COVER SHEET: 8

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The FCC must act on the health care provisions of the Act by May of 1997. The FCC issued a Public Notice on November 18, 1996 seeking the information that the Joint Board requested. Comments on these questions are due by December 16, 1996; reply comments by January 10, 1997. The questions on this sheet, which are broken down into specific and general categories, encompass the questions in the Public Notice.

If you are involved with a particular telemedicine project, you may be better equipped to answer the specific questions, perhaps with the help of your telecommunications provider. Members of large organizations may be able to help us answer some of the general questions. Please pass on to us any information you can. A greater degree of information will help the FCC to make decisions that will serve practitioners of telemedicine and the millions of Americans in rural areas who benefit from it. We greatly appreciate your help in implementing the is very important part of the Act.

**Specific:**

	SWITCHED 28.8 Kbps (ISDN) 128 Kbps	384 Kbps	1.54 Mbps (T-1)	PRI Other (What level?) 15.0 Mbps
What level of bandwidth are you currently using?	✓	✓		✓
What is the monthly rate for this service? (On average.)		*		
What is the rate for this service in the nearest urban area?	\$104 + INTELLITH USAGE			
What monthly rate would you pay if you were to order the other listed levels of service instead?	\$170 Rural + INTELLITH USAGE			rural areas are price is \$120/month higher than urban.
What are the monthly rates for these other levels of service in the nearest urban area?				
Would an infrastructure upgrade be required to provide you with any of these service levels? What would it cost?				
If any level of bandwidth were available to you at the rate charged for the same service in the nearest urban area, which level would you choose?	✓	✓	LIMITED APPLICATION	

\* KANSAS USES STATE PROVIDED NETWORK  
(\$338/month, \$31.41 hour)

Specific: (continued)

If local access to the Internet is not available, what is your monthly expenditure to reach the ISP?

**In rural areas, cost is an additional 10 cents a minute. This is in addition to the \$170.00 monthly charge plus inter-LATAs.**

Are you charged for traffic between local Access and Transport Areas (LATAs) at rates above those paid by customers in the nearest urban area of your state?

**Yes.**

What is the relative value, in terms of quality of care, of access to ISDN, 384kbps, and T-1 level service or the equivalent?

**Bandwidth needs are quite contextual. We know that 128kbps is adequate for much tele-psychiatry. We still believe that 384kbps is necessary for certain subspecialties where fine motion needs to be detected (e.g. neurology). We suspect that lower bandwidths will be quite appropriate for those subspecialties where a good still is all that is needed (e.g. dermatology) and hope to test this year. Early indications also point to the potential for good POTS for home health services. Ultimately, we hope to have desktop systems that will allow us to slide up and down the bandwidth continuum as needed for each particular service.**

How would you compare the use of telemedicine to other types of health care delivery?

**Research at KUMC has shown that patients still prefer to see a physician in person if given the choice. Actual patient acceptance and satisfaction cannot be generalized across all telemedicine services. For example, initial research indicates that children seeing their psychiatrist solely via interactive video are quite satisfied with this modality as their only access to a psychiatrist. However, oncology patients prefer the delivery technique we have developed whereby they see their oncologist via telemedicine supplemented by on-site visits. Tele-dermatology research indicates that patients are more than happy in certain circumstances to never see their dermatologist—instead their image is diagnosed in a store and forward capacity.**

General:

How many rural health care providers eligible for universal services support are using telemedicine?

**Do not have data on this.**

How many rural health care providers eligible for universal services support are not currently using telemedicine?

**No data.**

At what rate are eligible rural health care providers being created or shut down?

**We have some demographics on this; however, question is not clear. In terms of telemedicine, we are adding at organizational level to the tune of about 6 sites per year. As we move to disseminating web based applications, we will shift that focus to individual based.**

**Where and at what rate are Internet Service Providers expanding in rural areas of the country?**

**ISPs are not expanding to rural areas. Most provide #800 service with usage billed back to the customer.**

**Do insular areas experience a disparity in telecommunications rates between urban and rural areas?**

**In Kansas insular areas have same access to fractional T-1 services via state backbone as do urban areas. ISDN services is different story with fixed monthly cost being about 60 % higher for rural areas. Also, in Kansas towns where SW Bell is not the local carrier, it can be quite difficult as well as much more expensive to access ISDN services.**

**Are technological changes expected to increase or decrease the demand for bandwidth for telemedicine?**

**In our program, we are looking for technological changes to decrease the need for bandwidth in many contexts. This is because we have decided to drive our program this way. If a service can be adequately taken care of at 128kbps, we will go that route. If Internet applications are adequate, then that is plenty of bandwidth. We are still experimenting with which applications are appropriate for which level of bandwidth and anticipate that it will take 18 - 24 months to have a better handle on this. Even though we hope to drive down bandwidth needs for various applications, we anticipate increased usage by individual practitioners as a result. In addition, new applications such as virtual reality will drive the need for higher bandwidth. In other words, this issue is a moving target.**

**To what extent, and on what schedule, might ongoing network modernization, such as that occurring under private or state-sponsored initiatives, make universal service network upgrades unnecessary?**

**Without specific incentives to encourage private providers, rural areas will continue to lack modern technology and adequate bandwidth**

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A community health information network (CHIN) comprising 5 entities:

Genesis Skilled Nursing Center, NH

City: Concord, NH Distance from city boundary: 130 m.

SDN under negotiation with NYNEX

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## 6. Charges for telecommunications service:

NYNEX will not commit to bringing ISDN service to Littleton as promised.

Is there a monthly charge? No ☐ Yes ☒

If yes, how much is the charge? \$90/mo. for 5 accounts for up to 30 hrs usage per account

Is there a usage-based charge? No ☐ Yes ☒ For > 30 hrs/user

If yes, how much is the charge? \_\_\_\_\_

Is there a distance component (such as a per-mile fee) of the charge? No ☒ Yes ☐

NYNEX would provide ISDN service only if yes, how much is the charge? by establishing a foreign exchange to the nearest ISDN Hub in Hanover, NH. Cost Prohibitive

Was there an installation fee? No ☐ Yes ☒ \$50 for basic set up

If yes, how much was the charge? \$1 Conn River Net \_\_\_\_\_

Is the charge the regular tariffed rate, or is there a discount from the telecommunications provider? Tariffed ☒ Discount ☐  
If there is a discount, how much is it? \_\_\_\_\_

7. How does the project use telecommunications in the delivery of health care? (For example -- to send x-rays, distribute public health information, or perform video consultations. Please identify any occasional or episodic uses, such as might result from an outbreak of disease.)

With ISDN as Universal Service support standard, Ammoniasuc Community Health Services is prepared to use Medicalogic across an Intranet to maintain an electronic medical record and transmit financial data using Health Pro Practice Management System. Other North Country CHW members would share information when appropriate and collaborate to establish a common WWW server for Medicalogic, Health Pro and a central depository for Referral Guide, E-mail, Community Health Bulletins, Consumer Health Information Kiosk and other related services

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8. Could the project provide the services it is currently providing with less bandwidth? What effect would a lesser level of bandwidth have? (The implications of using greater or lesser levels of telecommunications services are related to image transmission time. What would the be the impact if the health care activities for which you now use telecommunications took twice as long, or if they could be completed in half the time?)

The planned services could not be provided without 150N as minimum Service Standard. Inability to protect record confidentiality and downtime from faulty POTS service, interrupting data transmission would be costly in terms of lost productivity and could compromise patient care.

9. What would the implications of having a greater level of bandwidth be?

Services described in #7 could be expanded to include simultaneous voice, image + video data saving time and reducing costs in a number of ways:

- \* Specialists could review pt information reducing unnecessary travel, in creasing patient compliance and enhancing access to care
- \* Nursing home residents could be treated in place avoiding trips to local emergency rooms.
- \* Physicians and Nurse Practitioners could improve and increase their capacity to manage the care of home bound disabled persons and elders
- \* using Medicallogic and decision support software over an Intranet would enable community health centers to collect outcome data for care provided in multiple settings to determine efficacy of approach to the process of care
- \* The consumer would be able to access the enormous medical self help resources available and improve communication + compliance so's creating a true partnership of shared responsibility

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10. Do you have e-mail? No ☐ Yes ☒

11. Do you have Internet access? No ☐ Yes ☒

If yes, do you incur long-distance charges by using it?

No ☒ Yes ☐

Please estimate your number of hours of Internet use per month:

less than 150 hrs total among 5 providers (not including  
other CHN members besides Ammanoesuc Community Health  
Services)

12. If you have access to the Internet, please list any purposes other than e-mail (such as accessing databases such as Lexis/Nexis) for which you use it:

File Transfer Protocol. Accessing MedLine and National Library of  
Medicine databases as well as many hypertext WWW servers.  
Transmitting financial data between health care satellites

Prepared on behalf of Ammanoesuc Community Health Services  
and the American College of Nurse Practitioners

Timothy Cox, RN-C, MSN, FNP/GNP